

Notice of Allowability

Application No.

10/010,053

Examiner

Gregory M. Desire

Applicant(s)

ZHOU, LINGXIANG

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 11/9/01.
2. ☒ The allowed claim(s) is/are 1-32.
3. ☒ The drawings filed on 09 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 10/20/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-32 allowed.
2. The following is an examiner's statement of reasons for allowance for independent claim 1. The prior art fails to disclose method for detecting an image area in a digital image including a background and image area as claimed. Specifically the features of:

Defining a plurality of strokes based on said gradient values, each stroke being line segment having a start pixel location and an end pixel location, and each stroke being derived from a region of pixel locations having non-zero gradient values the same sign, wherein pixel locations a first side of each stroke are said second image region and pixel locations to a second side of each stroke are in said first image region;

Merging said plurality of strokes, wherein a first stroke and a second stroke in said plurality of strokes are merged when said first and second strokes are collinear and a start pixel location of one of said first and second strokes is near an end pixel location of the other one of said first and second strokes;

Defining a plurality of corners using said strokes, wherein each corner is a pixel location of an intersection of a third stroke and a fourth stroke, said third stroke and said fourth stroke forming a corner when said third stroke is perpendicular to said fourth stroke, said third and fourth strokes are arranged in a third direction, and a start pixel location of one of said third and fourth strokes is close to an end pixel location of the other one of said third and fourth strokes; and

Art Unit: 2625

Defining an image area rectangle delimiting said image area using said plurality of corners and said plurality of strokes, wherein said image area rectangle is defined based on one or more corners fitting a predefined corner configuration and one or more strokes associated with said one or more corners, said one or more strokes forming at least a portion of a perimeter of said image area rectangle. These features in combination with other features are not taught in the prior art. Claims 2-32 depend on claim 1. Therefore are also allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (703) 308-9586. The examiner can normally be reached on M-F (8:30-6:00) Second Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory M. Desire
Examiner
Art Unit 2625

G.D.
October 20, 2004



**BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**